STIC Search Report
EIC 1700

STIC Database Tracking Number: 148799

TO: Ben Sackey
Location: REM 5B1
Art Unit : 1626
March 31, 2005

Case Serial Number: 10/725167

From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes

Fuller

Access DB# 148799

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BEN SACKEY Examiner #: 73489 Date: 3/24/05
Art Unit: 1626 Phone Number 30-2-0704 Serial Number: 10/725,167
Mail Box and Bldg/Room Location: REM 531 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Novel Surfactants

Inventors (please provide full names): Thillo et al.

Earliest Priority Filing Date: 6/6/03

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Compounds of formulae (I) and (II) and process of preparing them.

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher:	R. Fuller	NA Sequence (#)		STN
Searcher Phone #:		AA Sequence (#)		Dialog
Searcher Location:		Structure (#)	1	Questel/Orbit
Date Searcher Picked Up:		Bibliographic		Dr.Link
Date Completed:	3/31/05	Litigation		Lexis/Nexis
Searcher Prep & Review Time:	20	Fulltext		Sequence Systems
Clerical Prep Time:		Patent Family		WWW/Internet
Online Time:	20	Other		Other (specify)

PTO-1590 (8-01)

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=> FILE REG
FILE 'REGISTRY' ENTERED AT 16:30:38 ON 31 MAR 2005
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STRUCTURE FILE UPDATES:   30 MAR 2005  HIGHEST RN 847643-36-1
DICTIONARY FILE UPDATES:  30 MAR 2005  HIGHEST RN 847643-36-1

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**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 16:30:44 ON 31 MAR 2005
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FILE COVERS 1907 - 31 Mar 2005  VOL 142 ISS 14
FILE LAST UPDATED: 30 Mar 2005  (20050330/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> D QUE
L10             STR


KATHLEEN FULLER  EIC 1700  REMSON 4B28  571/272-2505
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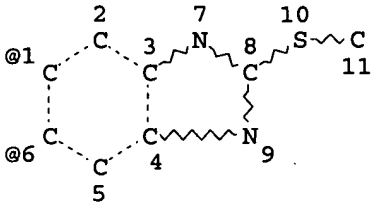
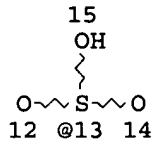




64 structures from the query

VPA 13-1/6 U
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 10
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

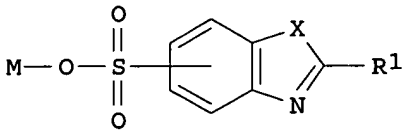
STEREO ATTRIBUTES: NONE
L12 64 SEA FILE=REGISTRY SSS FUL L10
L13 51 SEA FILE=HCAPLUS ABB=ON L12 — 51 CA references
L15 12 SEA FILE=HCAPLUS ABB=ON L13(L)PREP/RL — 12 CA references on preparation

=> D L15 BIB ABS IND HITSTR 1-12

L15 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:1054334 HCAPLUS
DN 142:45820
TI Surfactants for use in light-insensitive thermographic recording materials
IN Defieuw, Geert; Loccufier, Johan; Van Steen, Luc; Van Thillo, Etienne
PA Agfa-Gevaert, Belg.
SO Eur. Pat. Appl., 37 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1484640	A1	20041208	EP 2003-101662	20030606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2005053871	A1	20050310	US 2003-601361	20030623
JP 2004358934	A2	20041224	JP 2003-181230	20030625
PRAI EP 2003-101662	A	20030606		

OS MARPAT 142:45820
GI



I

AB A substantially light-insensitive monosheet thermog. recording material comprises a support and on one side of said support a thermosensitive element, wherein said thermog. recording material contains at least one compound represented by the formula I: (M = H, alkali, ammonium; R1 = alkyl, alkenyl-, alkynyl-, thioalkyl-, thioalkenyl-, thioalkynyl-, in which the alkyl-, alkenyl- or alkynyl- group has 6-25 carbons; X = -O-, -S-, -N(R2)-; R2 = H, -(CH2)mSO3M, CH2-C6H6-SO3M; m = 1-5). The object of the present invention is to provide substantially light-insensitive thermog. recording materials containing alternative photog. inactive surfactants, which enhances the adhesion of hydrophilic layers to hydrophobic supports, has no photog. active impurities and is compatible with image-wise heating with a thermal head when incorporated into the outermost layer.

IC ICM G03C001-498

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST surfactant thermog photothermog recording material

IT Photographic films
(heat-developable; surfactants for use in light-insensitive thermog. recording materials)

IT Surfactants
(surfactants for use in light-insensitive thermog. recording materials)

IT 805237-08-5 805237-12-1
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactant; mixture containing; surfactants for use in light-insensitive thermog. recording materials)

IT 793668-03-8 805237-09-6 805237-58-5 805237-59-6 805237-60-9
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactant; surfactants for use in light-insensitive thermog. recording materials)

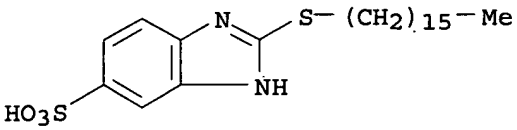
IT **743423-33-8P 805237-10-9P 805237-11-0P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(surfactants for use in light-insensitive thermog. recording materials)

IT 112-82-3, Cetyl bromide 1633-83-6, Butanesultone 53918-03-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of surfactants for use in light-insensitive thermog. recording materials)

IT **743423-33-8P 805237-10-9P 805237-11-0P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(surfactants for use in light-insensitive thermog. recording materials)

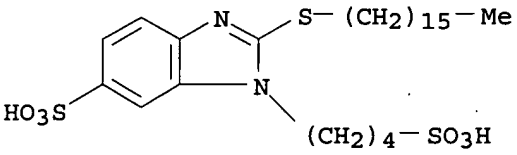
RN 743423-33-8 HCAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2-(hexadecylthio)-, monosodium salt (9CI) (CA INDEX NAME)



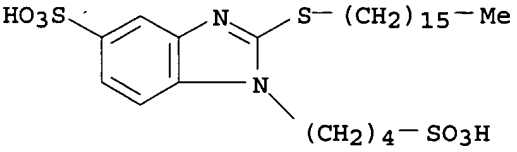
● Na

RN 805237-10-9 HCAPLUS
CN 1H-Benzimidazole-1-butanesulfonic acid, 2-(hexadecylthio)-6-sulfo-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 805237-11-0 HCAPLUS
CN 1H-Benzimidazole-1-butanesulfonic acid, 2-(hexadecylthio)-5-sulfo-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:691447 HCAPLUS
DN 141:215717
TI Surfactants for photographic material
IN Van Thillo, Etienne; Loccufier, Johan; Andries, Hartwig
PA Agfa-Gevaert, Belg.
SO U.S., 15 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

applicants

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6780576	B1	20040824	US 2003-601788	20030623
	EP 1484323	A1	20041208	EP 2003-101661	20030606
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004359649	A2	20041224	JP 2003-186994	20030630
	US 2004249166	A1	20041209	US 2003-725167	20031201
PRAI	EP 2003-101661	A	20030606		
	US 2003-601788	A3	20030623		

OS MARPAT 141:215717

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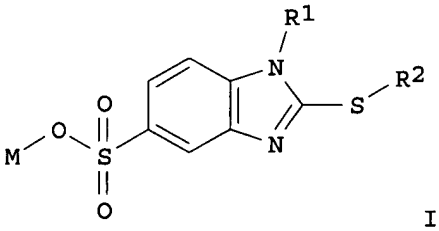

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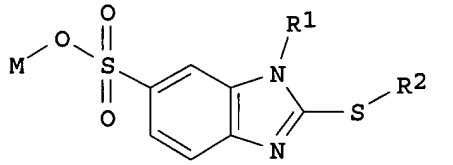

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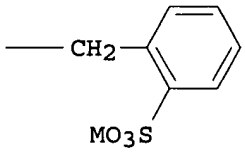


III

AB The present invention relates to a compound represented by formula I or II (M = H, alkali atom or an ammonium group; R1 = H, -(CH2)mSO3M group, III; R2 = alkyl, alkenyl, C6-25 alkynyl; m = 1-5) or a mixture of at least one compound represented by formula I with at least one compound represented by formula II; the use of as a surfactant; and a photog. material comprising a support and a layer containing photosensitive silver halide, characterized in that the photog. material contains at least one compound represented by the above-mentioned formula I, at least one compound represented by the above-mentioned formula II or a mixture of at least one compound represented by the above-mentioned formula I and at least one compound represented by the above-mentioned formula II.

IC ICM G03C001-38
ICS G03C001-91; C07D235-28

NCL 430523000; 430535000; 430536000; 430537000; 430636000; 548307100

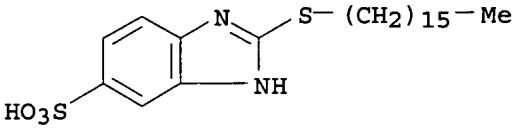
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST surfactant photog support emulsion

IT Photographic emulsions
Surfactants
(surfactants for photog. material)

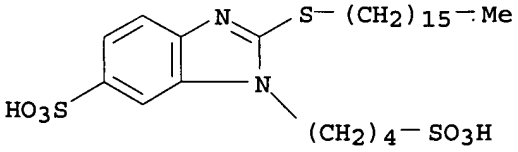
IT 112-82-3, Cetyl bromide 53918-03-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of surfactants for photog. material)

IT **743423-33-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
(preparation of surfactants for photog. material)
IT **743423-34-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(surfactants for photog. material)
IT 743423-30-5 743423-31-6
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactants for photog. material)
IT **743423-33-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
(preparation of surfactants for photog. material)
RN 743423-33-8 HCAPLUS
CN 1H-Benzimidazole-5-sulfonic acid, 2-(hexadecylthio)-, monosodium salt (9CI) (CA INDEX NAME)



● Na

IT **743423-34-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(surfactants for photog. material)
RN 743423-34-9 HCAPLUS
CN 1H-Benzimidazole-1-butanesulfonic acid, 2-(hexadecylthio)-6-sulfo-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:120569 HCAPLUS
DN 140:181315

TI Preparation of furanones as cytoprotectants for dermatologic conditions
IN Boddupalli, Sekhar; Walkinshaw, Gail; Wang, Bing
PA USA
SO U.S. Pat. Appl. Publ., 66 pp., Cont.-in-part of U.S. Ser. No. 354,474.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004029812	A1	20040212	US 2003-630170	20030730
US 2003176361	A1	20030918	US 2003-354474	20030128
US 6667330	B2	20031223		
WO 2005016340	A1	20050224	WO 2004-US24491	20040728

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2002-353939P	P	20020131	
US 2003-354474	A2	20030128	
US 2003-630170	A	20030730	

OS MARPAT 140:181315
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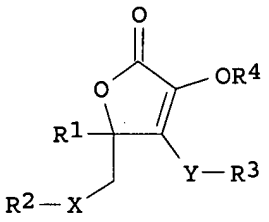

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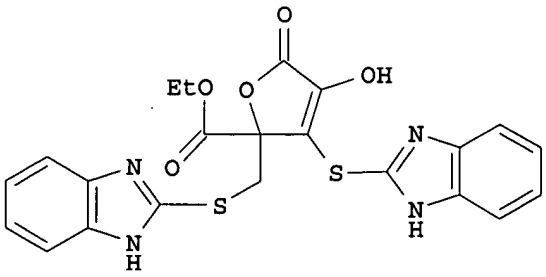


II

AB Title compds. I [R1 = CO2R', CONR'R'', CH2OR''', CN, (un)substituted heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl; R2, R3 = independently (un)substituted alkyl, cycloalkyl, aryl, aralkyl,

heterocyclyl, heteroaryl, heteroaralkyl, nucleoside, amino acid, di-, tri- or tetra-peptide; R4 = H, alkyl, alkylcarbonyl, (poly)alkoxyalkylene, dialkoxyphosphoryloxy; X = alkylene, NR', S, SO, SO2; or XR2 = PO(OR')2; Y = NR', S, SO, SO2; or YR3 = PO(OR')2; or XR2YR3 = (un)substituted aliphatic or aromatic ring; R' = H, alkenyl, (un)substituted alkyl, cycloalkyl, phosphoryl, aryl; R'' = H, alkenyl, (un)substituted alkyl, aryl; or R'R'' = atoms that form (un)substituted 5-7 membered aryl, heteroaryl ring; R''' = H, alkenyl, (un)substituted alkyl, acyl, cycloalkyl, phosphoryl, aryl; and their single tautomers, single stereoisomers, mixts. of tautomers and/or stereoisomers, and pharmaceutically acceptable salts] were prepared as cytoprotectants for treating dermatol. conditions. For example, II was prepared by reaction of 2-mercaptobenzimidazole with Et bromopyruvate in ethanol/acetone and aldol condensation of the two tautomeric forms of the pyruvate intermediate. Selected invention compds. showed significant reduction in edema in assays assessing mouse ear inflammatory response to topical arachidonic acid (10% to 70%, $p < 0.05$). Results from various assays were disclosed for selected invention compds. Thus, I and their pharmaceutical formulations are useful for regulating skin condition, regulating the signs of skin aging or for treating contact dermatitis, skin irritation, acne, rosacea, psoriasis, age-related damage or damage resulting from harmful (UV) radiation or environmental pollution, stress or fatigue.

IC ICM A61K038-06
ICS A61K038-05; A61K038-04; A61K031-541; A61K031-496; A61K031-5377; A61K031-452; A61K031-427; A61K031-421; A61K031-4178; A61K031-4025; A61K031-365

NCL 514018000; 514217030; 514227800; 514231500; 514254100; 514326000; 514365000; 514374000; 514397000; 514422000

CC 27-6 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 34, 63

ST furanone prepn formulation cytoprotectant dermatol skin condition dermatitis

IT Skin, disease
(aging; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Androgens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiandrogens, co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)

IT Ischemia
(cardiac, myocardial; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Cytoprotective agents
(cardioprotective; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Ischemia
(cerebral; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Anti-inflammatory agents
Antibiotics
Antioxidants
Sunscreens
(co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)

IT Corticosteroids, biological studies
Retinoids
Vitamins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)

IT Dermatitis
(contact; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Heart, disease
(failure; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Carboxylic acids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydroxy, co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)

IT Heart, disease
(infarction; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Skin, disease
(irritation; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Heart, disease
(ischemia, myocardial; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Brain, disease
(ischemia; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Cytoprotective agents
(neuroprotective; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Acne
Anti-ischemic agents
Cytoprotective agents
Dermatitis
Drug delivery systems
Edema
Inflammation
Psoriasis
Skin, disease
Skin preparations (pharmaceutical)
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Interleukin 1β
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT Skin, disease
(rosacea; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 59-02-9, α-Tocopherol 59-02-9D, α-Tocopherol, esters 69-72-7, Salicylic acid, biological studies 94-36-0, Benzoyl peroxide, biological studies 119-13-1, δ-Tocopherol 119-13-1D, δ-Tocopherol, esters 148-03-8, β-Tocopherol 148-03-8D, β-Tocopherol, esters 7616-22-0, γ-Tocopherol 7616-22-0D, γ-Tocopherol, esters
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)

IT 577952-58-0P 577952-60-4P 577952-61-5P
RL: PAC (Pharmacological activity); PEP (Physical, engineering or chemical

process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-47-7P 577952-51-3P 577952-69-3P 577952-70-6P 577952-71-7P 577952-97-7P
RL: PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-57-9P 577952-80-8P, 4-Hydroxy-5-oxo-3-(2-furanylmethylsulfanyl)-2-[(2-furanylmethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-84-2P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-48-8P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-49-9P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester, trimethylamine salt 577952-50-2P, 3-((5-Amino-2H-[1,2,4]triazol-3-yl)sulfanyl)-2-(((5-amino-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-52-4P, 4-Hydroxy-5-oxo-3-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanyl)-2-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-53-5P, 3-(5-Chlorobenzothiazol-2-ylsulfanyl)-2-[(5-chloro-benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-54-6P, 4-Hydroxy-3-(5-methoxy-1H-benzimidazol-2-ylsulfanyl)-2-[(5-methoxy-1H-benzimidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-55-7P, 4-Hydroxy-5-oxo-3-(p-tolylsulfanyl)-2-(p-tolylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-56-8P 577952-62-6P 577952-63-7P 577952-64-8P 577952-65-9P 577952-66-0P 577952-67-1P 577952-72-8P 577952-73-9P, 4-Hydroxy-5-oxo-3-(pyridin-4-ylsulfanyl)-2-[(pyridin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-74-0P, 5,8-Dichloro-3-hydroxy-2-oxo-2H-1-oxa-4,9-dithiabenzo[f]azulene-10a-carboxylic acid ethyl ester 577952-75-1P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-76-2P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid (2-hydroxyethyl)amide 577952-78-4P, 3-(Benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-79-5P, 4-(Furan-2-ylmethylsulfanyl)-5-[(furan-2-ylmethylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-81-9P, 4-(2,2-Dimethylpropionyloxy)-3-(furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-82-0P 577952-83-1P 577952-85-3P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-(thiazol-2-yl)-5H-furan-2-one 577952-86-4P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-87-5P, 3-(2-Chloro-4-fluorophenylsulfanyl)-2-[(2-chloro-4-fluorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic

acid ethyl ester 577952-88-6P 577952-89-7P, 4-(Benzoxazol-2-ylsulfanyl)-5-[(benzoxazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-90-0P, 4-(5-Chlorobenzothiazol-2-ylsulfanyl)-5-[(5-chlorobenzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-91-1P, 4-(Benzothiazol-2-ylsulfanyl)-5-[(benzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-92-2P, 3-(2-Chloro-6-fluorobenzylsulfanyl)-2-[(2-chloro-6-fluorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-93-3P, 3-(5,6-Dichloro-1H-benzimidazol-2-ylsulfanyl)-2-[(5,6-dichloro-1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-94-4P, 4-Hydroxy-3-(5-methoxybenzothiazol-2-ylsulfanyl)-2-[(5-methoxybenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-95-5P, 3-(2,4-Dichlorobenzylsulfanyl)-2-[(2,4-dichlorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-96-6P, 2-[(Benzothiazol-2-ylsulfinyl)methyl]-3-(benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-98-8P, 4-Hydroxy-3-(6-nitrobenzothiazol-2-ylsulfanyl)-2-[(6-nitrobenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-99-9P, 2-[(1H-Benzimidazol-2-ylsulfanyl)methyl]-4-ethoxy-3-(1-ethyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-00-5P, 3-[Furan-2-ylmethanesulfinyl]-2-((furan-2-ylmethanesulfinyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-01-6P, 2-[(Furan-2-ylmethanesulfinyl)methyl]-3-(furan-2-ylmethanesulfonyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-02-7P, 4-Hydroxy-3-methylsulfanyl-2-methylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-03-8P, 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-(((5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-04-9P, 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-05-0P 577953-06-1P 577953-07-2P, 3-(Furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-4-isobutanoyloxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-08-3P, 4-(2,2-Dimethylpropanoyloxy)-3-ethoxycarbonylmethylsulfanyl-2-[(ethoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-09-4P, 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2-[(4-phenylthiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-10-7P, 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-11-8P, 4-Hydroxy-3-[(1-methyl-1H-imidazol-2-yl)sulfanyl]-2-[(1-methyl-1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-12-9P, 3-Cyclopentylsulfanyl-2-cyclopentylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-13-0P, 3-Butylsulfanyl-2-butylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-14-1P, 4-Hydroxy-3-isobutylsulfanyl-2-isobutylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-15-2P, 4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-[(naphthalen-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-16-3P, 4-Hydroxy-5-oxo-3-[(1-phenyl-1H-tetrazol-5-yl)sulfanyl]-2-[[(1-phenyl-1H-tetrazol-5-yl)sulfanyl]methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-17-4P, 4-Hydroxy-5-oxo-3-((5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl)-2-(((5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-18-5P, 4-Hydroxy-5-oxo-3-(thiazol-2-ylsulfanyl)-2-[(thiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-19-6P, 3-Benzylsulfanyl-2-benzylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-20-9P,

4-Hydroxy-3-(4-methoxyphenylsulfanyl)-2-[(4-methoxyphenylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-21-0P, 3-(2-Chlorophenylsulfanyl)-2-[(2-chlorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-22-1P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-23-2P, 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzoxazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-24-3P, 4-Hydroxy-5-oxo-3-(4-trifluoromethylpyrimidin-2-ylsulfanyl)-2-[(4-trifluoromethylpyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-25-4P, 4-Hydroxy-3-(4-methylpyrimidin-2-ylsulfanyl)-2-[(4-methylpyrimidin-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-26-5P, 4-Hydroxy-5-oxo-3-(pyrimidin-2-ylsulfanyl)-2-[(pyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-27-6P, 4-Hydroxy-5-oxo-3-(2-sulfo-ethylsulfanyl)-2-[(2-sulfo-ethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-28-7P, 4-Hydroxy-5-oxo-3-(7-trifluoromethylquinolin-4-ylsulfanyl)-2-[(7-trifluoromethylquinolin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester **577953-29-8P** 577953-30-1P 577953-31-2P, 3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-32-3P, 4-(Benzothiazol-2-ylsulfanyl)-5-benzoyl-3-hydroxy-5H-furan-2-one 577953-33-4P, 3-(1H-Benzimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-5H-furan-2,2-dicarboxylic acid diethyl ester 577953-34-5P, 5-Acetyl-4-(benzothiazol-2-ylsulfanyl)-3-hydroxy-5H-furan-2-one 577953-35-6P, 3-Benzylsulfanyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-36-7P, 4-Hydroxy-3-(5-methyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid 2-isopropyl-5-methylcyclohexyl ester 577953-37-8P 577953-38-9P, 3-(Benzoselenazol-2-ylsulfanyl)-2-[(benzoselenazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-39-0P, 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2,5-dihydrofuran-2-carboxylic acid 577953-40-3P 577953-41-4P, 4-Hydroxy-5-oxo-3-(9H-purin-6-ylsulfanyl)-2-[(9H-purin-6-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-42-5P 577953-43-6P, 4-Hydroxy-3-(1H-imidazol-2-ylsulfanyl)-2-[(1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-44-7P, 3-(2-Diethylaminoethylsulfanyl)-2-[(2-diethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-45-8P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-46-9P, 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester hydrochloride 577953-47-0P, 4-Hydroxy-3-(2-methoxycarbonylethylsulfanyl)-2-[(2-methoxycarbonylethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-48-1P, 4-Hydroxy-3-(methoxycarbonylmethylsulfanyl)-2-[(methoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-49-2P, 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-[((5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-50-5P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-51-6P, 3-(4-Fluorobenzylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2,2-dicarboxylic acid diethyl ester 577953-52-7P, 4-Hydroxy-5-oxo-3-(1-oxopyridin-2-ylsulfanyl)-2-[(1-oxopyridin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-53-8P, 4-Hydroxy-3-(4-methoxybenzylsulfanyl)-2-[(4-methoxybenzylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-54-9P,

4-Hydroxy-3-(5-nitro-1H-benzimidazol-2-ylsulfanyl)-2-((5-nitro-1H-benzimidazol-2-ylsulfanyl)methyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

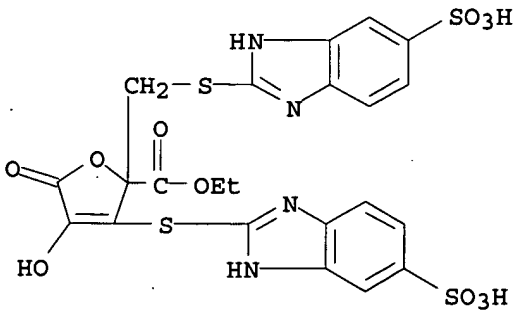
IT 475293-89-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-68-2P 657411-22-8P 657411-23-9P 657411-24-0P
657411-25-1P 657411-26-2P 657411-27-3P 657411-28-4P
657411-29-5P 657411-30-8P 657411-31-9P 657411-32-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

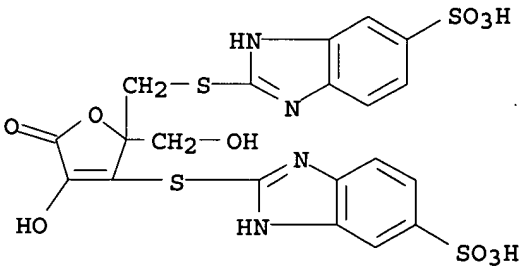
IT 70-18-8, L-Glutathione, reactions 70-23-5, Ethyl bromopyruvate 106-45-6, 4-Methyl benzenethiol 583-39-1, 2-Mercaptobenzimidazole 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 3282-30-2, Trimethylacetyl chloride 4556-23-4, 4-Mercaptopyridine 5331-91-9, 5-Chloro-2-mercaptobenzothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7652-46-2 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 37052-78-1, 5-Methoxy-2-benzimidazolethiol 60853-81-8 62571-86-2, Captopril 87314-49-6, 3,6-Dichloro-1,2-benzenedithiol 349445-19-8, 3-(Benzothiazol-2-ylsulfanyl)-2-(oxo)propionic acid ethyl ester 577952-77-3, 2,3-Bis(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT **577953-29-8P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

RN 577953-29-8 HCAPLUS
CN 2-Furancarboxylic acid, 2,5-dihydro-4-hydroxy-5-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-2-[[(5-sulfo-1H-benzimidazol-2-yl)thio]methyl]-, 2-ethyl ester (9CI) (CA INDEX NAME)



IT **657411-25-1P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
RN 657411-25-1 HCAPLUS
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[[2,5-dihydro-4-hydroxy-2-(hydroxymethyl)-5-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-2-furanyl]methyl]thio]- (9CI) (CA INDEX NAME)



L15 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:26437 HCAPLUS
DN 141:282618
TI Amphiphilic cyclodextrin complexation of clofazimine
AU Schwinte, Pascale; Ramphul, Meera; Darcy, Raphael; O'Sullivan, John F.
CS University College Dublin, Centre for Synthesis and Chemical Biology, Conway Institute, Dept. Chemistry, National Univ. Ireland, Dublin, 4, Ire.
SO Journal of Inclusion Phenomena and Macrocyclic Chemistry (2003), 47(3-4), 109-112
CODEN: JIPCF5; ISSN: 1388-3127
PB Kluwer Academic Publishers
DT Journal
LA English
AB The cyclodextrin amphiphiles heptakis[6-(1'-sulfonato-3'-propyl)-6-thio-2,3-di-O-acetyl]-β-cyclodextrin, heptakis[6-(6' -sulfonato-2'-benzimidazolyl)-6-thio-2,3-di-O-acetyl]-β-cyclodextrin, and heptakis[6-(β-D-glucosyl)-6-thio-2,3-di-O-acetyl]-β-cyclodextrin have been shown to form aggregates in water by fluorescence measurements on the binding of 2-anilinonaphthalene, and by laser light-scattering measurements. Ests. of aggregation number have been obtained. These aggregates successfully incorporate clofazimine, a lipophilic heterocyclic drug, and increase its water solubility by a factor of 30 to 50.
CC 63-6 (Pharmaceuticals)
ST amphiphilic cyclodextrin aggregate complexation clofazimine soly drug delivery
IT Aggregates
Amphiphiles
Solubility
(amphiphilic cyclodextrin complexation of clofazimine for solubility increase)
IT Drug delivery systems
(inclusion complexes; amphiphilic cyclodextrin complexation of clofazimine for solubility increase)
IT 2030-63-9DP, Clofazimine, inclusion complexes with cyclodextrin

amphiphiles 7585-39-9DP, β-Cyclodextrin, reaction products with clofazimine 760958-28-9DP, reaction products with clofazimine **760958-29-0DP**, reaction products with clofazimine 760958-30-3DP, reaction products with clofazimine
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(amphiphilic cyclodextrin complexation of clofazimine for solubility increase)

IT 2030-63-9, Clofazimine 7585-39-9, β-Cyclodextrin 760958-28-9 760958-29-0 760958-30-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(amphiphilic cyclodextrin complexation of clofazimine for solubility increase)

IT **760958-29-0DP**, reaction products with clofazimine
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(amphiphilic cyclodextrin complexation of clofazimine for solubility increase)

RN 760958-29-0 HCAPLUS

CN β-Cyclodextrin, 6A,6B,6C,6D,6E,6F,6G-heptakis-S-(5-sulfo-1H-benzimidazol-2-yl)-6A,6B,6C,6D,6E,6F,6G-heptathio-, tetradecaacetate, heptasodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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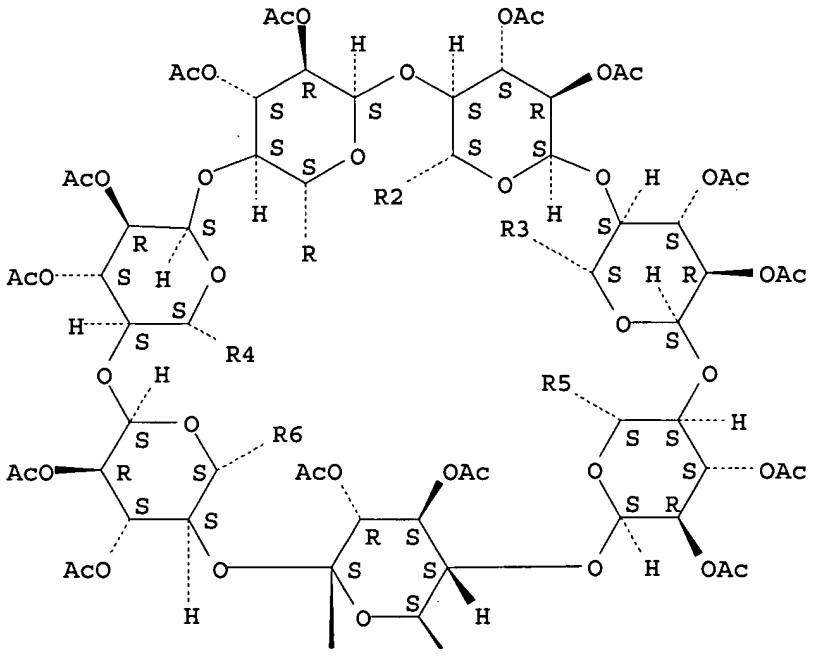
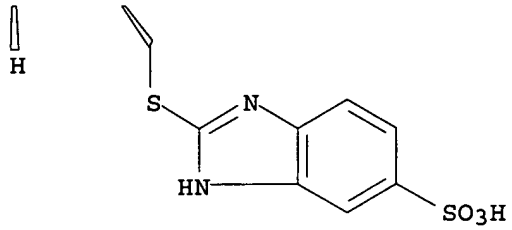
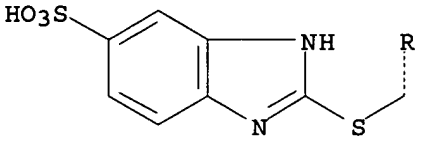
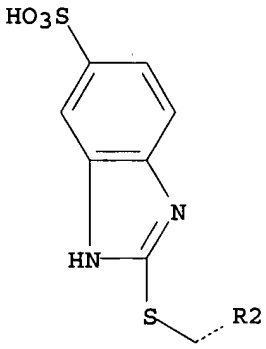


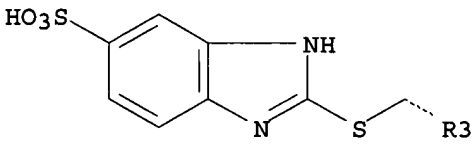
PAGE 2-A



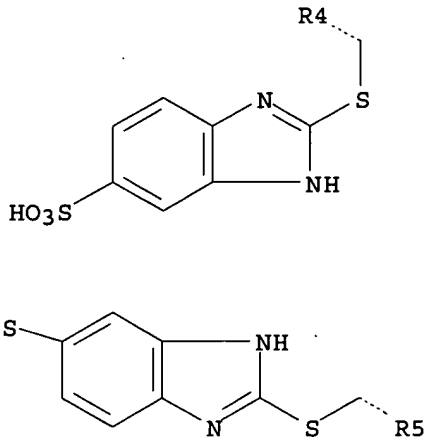


PAGE 3-A





PAGE 4-A



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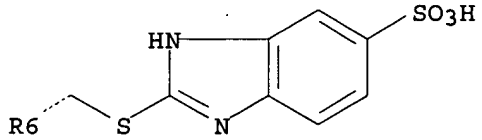

●7 Na

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:610432 HCAPLUS
DN 139:179965
TI Preparation of furanones as cytoprotectants for neuroinflammation and neurodegenerative disorders
IN Wang, Bing; Zhang, Wei; Song, Jiangao; Del Balzo, Ughetta; Brown, Lesley; Walkinshaw, Gail
PA Galileo Laboratories, Inc., USA
SO PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003064403	A1	20030807	WO 2003-US2766	20030130

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EP 1478634 A1 20041124 EP 2003-705988 20030130
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OS MARPAT 139:179965
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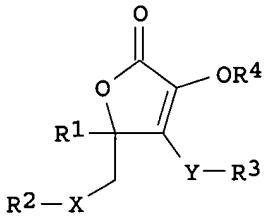

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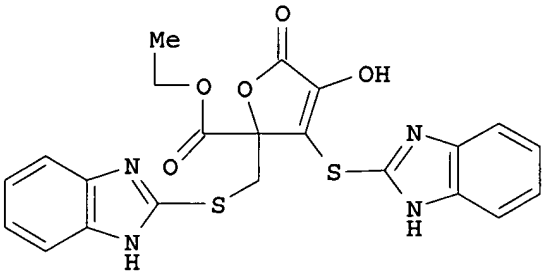


II

AB Title compds. I [wherein R1 = CO2R', CONR'R'', CH2OR''', CN, (un)substituted heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl; R2, R3 = independently (un)substituted alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heteroaryl, heteroaralkyl, nucleoside, amino acid, di-, tri- or tetra-peptide; R4 = H, alkyl, alkylcarbonyl, (poly)alkoxyalkylene, dialkoxyphosphoryloxy; X = alkylene, NR', S, SO, SO2; or XR2 = PO(OR')2; Y = NR', S, SO, SO2; or YR3 = PO(OR')2; or XR2YR3 = (un)substituted aliphatic or aromatic ring; R' = H, alkenyl, (un)substituted alkyl, cycloalkyl, phosphoryl, aryl; R'' = H, alkenyl, (un)substituted alkyl, aryl; or R'R'' = atoms that form (un)substituted 5-7 membered aryl, heteroaryl ring; R''' = H, alkenyl, (un)substituted alkyl, acyl, cycloalkyl, phosphoryl, aryl; with the proviso that the compound is not 4-hydroxy-3-methanylsulfonyl-2-methanylsulfonylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid Et ester; and further with the proviso that when X = alkylene, R2 ≠ (un)substituted alkyl; and their single tautomers, single stereoisomers, mixts. of tautomers and/or stereoisomers, and pharmaceutically acceptable salts] were prepared as cytoprotectants for neuroinflammation and neurodegenerative disorders. For example, II was prepared by reaction of 2-mercaptobenzimidazole with Et bromopyruvate in ethanol/acetone and aldol condensation of the two tautomeric forms of the pyruvate intermediate. Selected invention compds. showed significant

reduction in edema in assays assessing mouse ear inflammatory response to topical arachidonic acid (10% to 70%, $p < 0.05$). Results from neuronal cell stress assay, myocyte calcium-contractility assay, and rat middle cerebral artery occlusion model were disclosed for selected invention compds. Thus, I and their pharmaceutical formulations are useful in the treatment of stroke, cerebral ischemia, myocardial infarction, myocardial ischemia, chronic heart failure, inflammation and other oxidative stress-related conditions, and Alzheimer's disease and senile dementia (no data).

IC ICM C07D305-12
ICS C07D235-04; A61K031-34; A61K031-415

CC 27-6 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 34, 63

ST furanone prepn cytoprotectant neuroinflammation neurodegenerative stroke myocardia formulation cardioprotectant

IT Ischemia
(cardiac, myocardial; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Cytoprotective agents
(cardioprotective; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Edema
Ischemia
(cerebral; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Mental disorder
(cognitive, post-surgical; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Nervous system, disease
(degeneration; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Cognition
(disorder, post-surgical; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Brain, disease
(edema; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Heart, disease
(failure, chronic; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Heart, disease
(failure; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Injury
(head; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Brain, disease
Heart, disease
(infarction; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Head, disease
Spinal cord, disease
(injury; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT Heart, disease
(ischemia, myocardial; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Brain, disease
(ischemia; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Inflammation
(neurogenic; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Cytoprotective agents
(neuroprotective; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Nerve, disease
(peripheral neuropathy; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Alzheimer's disease
Anti-Alzheimer's agents
Anti-inflammatory agents
Anti-ischemic agents
Autoimmune disease
Cytoprotective agents
Drug delivery systems
Edema
Immunomodulators
Oxidative stress, biological
(preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Interleukin 1β
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Eye, disease
(retinal ischemia; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Ischemia
(retinal; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Mental disorder
(senile psychosis; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Injury
(spinal cord; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Brain, disease
(stroke; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT Injury
(trauma, surgical; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
IT 577952-58-0P 577952-60-4P 577952-61-5P
RL: PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577952-47-7P 577952-51-3P 577952-69-3P 577952-70-6P 577952-71-7P 577952-97-7P
RL: PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577952-57-9P 577952-80-8P, 4-Hydroxy-5-oxo-3-(2-furanylmethylsulfanyl)-2-[(2-furanylmethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-84-2P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577952-48-8P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-49-9P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester, trimethylamine salt 577952-50-2P, 3-((5-Amino-2H-[1,2,4]triazol-3-yl)sulfanyl)-2-(((5-amino-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-52-4P, 4-Hydroxy-5-oxo-3-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanyl)-2-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-53-5P, 3-(5-Chlorobenzothiazol-2-ylsulfanyl)-2-[(5-chloro-benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-54-6P, 4-Hydroxy-3-(5-methoxy-1H-benzimidazol-2-ylsulfanyl)-2-[(5-methoxy-1H-benzimidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-55-7P, 4-Hydroxy-5-oxo-3-(p-tolylsulfanyl)-2-(p-tolylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-56-8P 577952-62-6P 577952-63-7P 577952-64-8P 577952-65-9P 577952-66-0P 577952-67-1P 577952-72-8P 577952-73-9P, 4-Hydroxy-5-oxo-3-(pyridin-4-ylsulfanyl)-2-[(pyridin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-74-0P, 5,8-Dichloro-3-hydroxy-2-oxo-2H-1-oxa-4,9-dithiabenzo[f]azulene-10a-carboxylic acid ethyl ester 577952-75-1P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-76-2P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid (2-hydroxyethyl)amide 577952-78-4P, 3-(Benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-79-5P, 4-(Furan-2-ylmethylsulfanyl)-5-[(furan-2-ylmethylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-81-9P, 4-(2,2-Dimethylpropionyloxy)-3-(furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-82-0P 577952-83-1P 577952-85-3P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-(thiazol-2-yl)-5H-furan-2-one 577952-86-4P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-87-5P, 3-(2-Chloro-4-fluorophenylsulfanyl)-2-[(2-chloro-4-fluorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic

acid ethyl ester 577952-88-6P 577952-89-7P, 4-(Benzoxazol-2-ylsulfanyl)-5-[(benzoxazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-90-0P, 4-(5-Chlorobenzothiazol-2-ylsulfanyl)-5-[(5-chlorobenzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-91-1P, 4-(Benzothiazol-2-ylsulfanyl)-5-[(benzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-92-2P, 3-(2-Chloro-6-fluorobenzylsulfanyl)-2-[(2-chloro-6-fluorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-93-3P, 3-(5,6-Dichloro-1H-benzimidazol-2-ylsulfanyl)-2-[(5,6-dichloro-1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-94-4P, 4-Hydroxy-3-(5-methoxybenzothiazol-2-ylsulfanyl)-2-[(5-methoxybenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-95-5P, 3-(2,4-Dichlorobenzylsulfanyl)-2-[(2,4-dichlorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-96-6P, 2-[(Benzothiazol-2-ylsulfinyl)methyl]-3-(benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-98-8P, 4-Hydroxy-3-(6-nitrobenzothiazol-2-ylsulfanyl)-2-[(6-nitrobenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-99-9P, 2-[(1H-Benzimidazol-2-ylsulfanyl)methyl]-4-ethoxy-3-(1-ethyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-00-5P, 3-[Furan-2-ylmethanesulfinyl]-2-((furan-2-ylmethanesulfinyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-01-6P, 2-[(Furan-2-ylmethanesulfinyl)methyl]-3-(furan-2-ylmethanesulfonyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-02-7P, 4-Hydroxy-3-methylsulfanyl-2-methylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-03-8P, 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-(((5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-04-9P, 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-05-0P 577953-06-1P 577953-07-2P, 3-(Furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-4-isobutanoyloxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-08-3P, 4-(2,2-Dimethylpropanoyloxy)-3-ethoxycarbonylmethylsulfanyl-2-[(ethoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-09-4P, 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2-[(4-phenylthiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-10-7P, 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-11-8P, 4-Hydroxy-3-[(1-methyl-1H-imidazol-2-yl)sulfanyl]-2-[(1-methyl-1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-12-9P, 3-Cyclopentylsulfanyl-2-cyclopentylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-13-0P, 3-Butylsulfanyl-2-butylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-14-1P, 4-Hydroxy-3-isobutylsulfanyl-2-isobutylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-15-2P, 4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-[(naphthalen-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-16-3P, 4-Hydroxy-5-oxo-3-[(1-phenyl-1H-tetrazol-5-yl)sulfanyl]-2-[[(1-phenyl-1H-tetrazol-5-yl)sulfanyl]methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-17-4P, 4-Hydroxy-5-oxo-3-((5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl)-2-(((5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-18-5P, 4-Hydroxy-5-oxo-3-(thiazol-2-ylsulfanyl)-2-[(thiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-19-6P, 3-Benzylsulfanyl-2-benzylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-20-9P,

4-Hydroxy-3-(4-methoxyphenylsulfanyl)-2-[(4-methoxyphenylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-21-0P, 3-(2-Chlorophenylsulfanyl)-2-[(2-chlorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-22-1P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-23-2P, 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzoxazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-24-3P, 4-Hydroxy-5-oxo-3-(4-trifluoromethylpyrimidin-2-ylsulfanyl)-2-[(4-trifluoromethylpyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-25-4P, 4-Hydroxy-3-(4-methylpyrimidin-2-ylsulfanyl)-2-[(4-methylpyrimidin-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-26-5P, 4-Hydroxy-5-oxo-3-(pyrimidin-2-ylsulfanyl)-2-[(pyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-27-6P, 4-Hydroxy-5-oxo-3-(2-sulfo-ethylsulfanyl)-2-[(2-sulfo-ethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-28-7P, 4-Hydroxy-5-oxo-3-(7-trifluoromethylquinolin-4-ylsulfanyl)-2-[(7-trifluoromethylquinolin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester **577953-29-8P** 577953-30-1P 577953-31-2P, 3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-32-3P, 4-(Benzothiazol-2-ylsulfanyl)-5-benzoyl-3-hydroxy-5H-furan-2-one 577953-33-4P, 3-(1H-Benzimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-5H-furan-2,2-dicarboxylic acid diethyl ester 577953-34-5P, 5-Acetyl-4-(benzothiazol-2-ylsulfanyl)-3-hydroxy-5H-furan-2-one 577953-35-6P, 3-Benzylsulfanyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-36-7P, 4-Hydroxy-3-(5-methyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid 2-isopropyl-5-methylcyclohexyl ester 577953-37-8P 577953-38-9P, 3-(Benzoselenazol-2-ylsulfanyl)-2-[(benzoselenazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-39-0P, 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2,5-dihydrofuran-2-carboxylic acid 577953-40-3P 577953-41-4P, 4-Hydroxy-5-oxo-3-(9H-purin-6-ylsulfanyl)-2-[(9H-purin-6-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-42-5P 577953-43-6P, 4-Hydroxy-3-(1H-imidazol-2-ylsulfanyl)-2-[(1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-44-7P, 3-(2-Diethylaminoethylsulfanyl)-2-[(2-diethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-45-8P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-46-9P, 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester hydrochloride 577953-47-0P, 4-Hydroxy-3-(2-methoxycarbonylethylsulfanyl)-2-[(2-methoxycarbonylethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-48-1P, 4-Hydroxy-3-(methoxycarbonylmethylsulfanyl)-2-[(methoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-49-2P, 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-[((5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-50-5P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-51-6P, 3-(4-Fluorobenzylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2,2-dicarboxylic acid diethyl ester 577953-52-7P, 4-Hydroxy-5-oxo-3-(1-oxopyridin-2-ylsulfanyl)-2-[(1-oxopyridin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-53-8P, 4-Hydroxy-3-(4-methoxybenzylsulfanyl)-2-[(4-methoxybenzylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-54-9P,

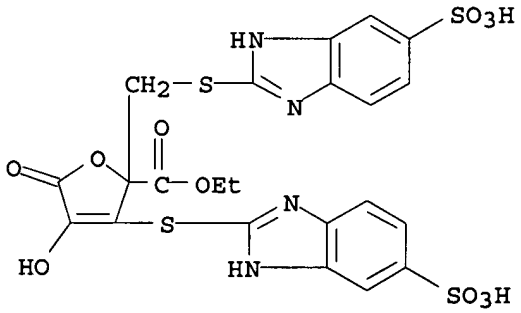
4-Hydroxy-3-(5-nitro-1H-benzimidazol-2-ylsulfanyl)-2-((5-nitro-1H-benzimidazol-2-ylsulfanyl)methyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 475293-89-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 70-18-8, L-Glutathione, reactions 70-23-5, Ethyl bromopyruvate 106-45-6, 4-Methyl benzenethiol 583-39-1, 2-Mercaptobenzimidazole 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 3282-30-2, Trimethylacetyl chloride 4556-23-4, 4-Mercaptopyridine 5331-91-9, 5-Chloro-2-mercaptobenzothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7652-46-2 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 37052-78-1, 5-Methoxy-2-benzimidazolethiol 60853-81-8 62571-86-2, Captopril 87314-49-6, 3,6-Dichloro-1,2-benzenedithiol 349445-19-8, 3-(Benzothiazol-2-ylsulfanyl)-2-(oxo)propionic acid ethyl ester 577952-77-3, 2,3-Bis(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT **577953-29-8P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

RN 577953-29-8 HCAPLUS
CN 2-Furancarboxylic acid, 2,5-dihydro-4-hydroxy-5-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-2-[[(5-sulfo-1H-benzimidazol-2-yl)thio]methyl]-, 2-ethyl ester (9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:43045 HCAPLUS
DN 138:89499
TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress
IN Wang, Bing; Miller, Guy; Zhang, Wei; Janagani, Satyanarayana; Song, Jiangao
PA USA
SO U.S. Pat. Appl. Publ., 54 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013847	A1	20030116	US 2002-138937	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:89499
AB Pyruvate derivs. A-X-CH2COCO-Z and A-X-CH:C(OH)CO-Z [A = substituted alkyl or heteroaryl, heterocyclyl, (un)substituted nucleoside, di-, tri- or tetrapeptide, CH2COCO2R', or CH:C(OH)CO2R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = NR', S, SO, SO2, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; Z = OR or SR, where R = H, (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, S-[3-(pentyloxy)-2,3-dioxopropyl]glutathione was prepared by alkylation of glutathione. Compds. of the invention were evaluated as agents for protection against ischemic damage.
IC ICM C07K005-06
ICS C07C323-00; C07H019-16; C07H019-06; C07D293-10; C07D235-14
NCL 530330000; 530331000; 536027300; 536028400; 544162000; 544287000; 548121000; 548204000; 548304400; 548316400
CC 23-17 (Aliphatic Compounds)
Section cross-reference(s): 1, 34
ST peptide pyruvate prepn pharmaceutical oxidative stress
IT Heart, disease
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Ischemia
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Peptides, preparation
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 475294-13-4P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P
475293-84-6P 475293-85-7P 475293-86-8P 475293-87-9P
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P
475293-93-7P 475293-94-8P 475293-95-9P 475293-96-0P 475293-97-1P
475293-98-2P 475293-99-3P 475294-00-9P 475294-01-0P 475294-02-1P
475294-03-2P 475294-04-3P 475294-05-4P 475294-06-5P 475294-07-6P
475294-08-7P 475294-09-8P 475294-10-1P 475294-11-2P 475294-12-3P
475294-14-5P 475294-15-6P 475294-16-7P 475294-17-8P 475294-18-9P
475294-19-0P 475294-20-3P 475294-21-4P 475294-22-5P 475294-23-6P
475294-24-7P 475294-25-8P 475294-26-9P 475294-27-0P 475294-28-1P
475294-29-2P 475294-30-5P 475294-31-6P 475294-32-7P 475294-33-8P
475294-34-9P 475294-35-0P 475294-36-1P 475294-37-2P 475294-38-3P
475294-39-4P 475294-40-7P 475294-41-8P 475294-42-9P 475294-43-0P
475294-44-1P 475294-45-2P 475294-46-3P 475294-47-4P 475294-48-5P
475294-49-6P 475294-60-1P 475294-63-4P 475294-64-5P 475294-65-6P
475294-66-7P 475294-67-8P 475294-68-9P 475294-69-0P 475294-70-3P
475294-71-4P 475294-72-5P 475294-73-6P 475294-74-7P 475294-75-8P
475294-76-9P 475294-77-0P 475294-78-1P 475294-79-2P 475294-80-5P
475294-81-6P 475294-82-7P 475557-24-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

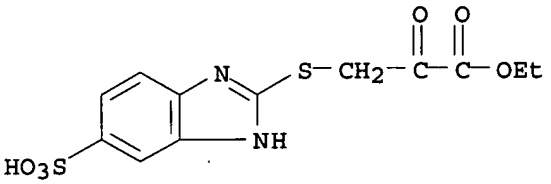
IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7, 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1, 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8, 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3, L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5, 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0 283159-88-6 475294-53-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P
475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT **475293-84-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS
CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl

ester, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:43044 HCAPLUS
DN 138:89500
TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress
IN Wang, Bing; Miller, Guy; Janagani, Satyanarayana; Zhang, Wei
PA USA
SO U.S. Pat. Appl. Publ., 55 pp., Cont.-in-part of U. S Provisional Ser. No. 368,456.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013846	A1	20030116	US 2002-138809	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:89500
AB Pyruvate derivs. A-X-CH2C(:W)CONRbRc and A-X-CH:C(W)CONRbRc [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH2COCO2R', or CH:C(OH)CO2R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = S, SO, SO2, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; W = :O, :NORa, or N(OH)Rd; Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Rb = H, (un)substituted (cyclo)alkyl, aryl, or aralkyl; Rc = H or (un)substituted alkyl; or RbRcN = 5- to 7-membered heterocyclyl; Rd = H, acyl, or (un)substituted alkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, S-[3-(4-methylpiperidino)-2,3-dioxopropyl]glutathione was prepared via alkylation of glutathione. Compds. of the invention were evaluated as agents for protection against ischemic damage.
IC ICM C07K005-06
ICS C07H019-16; C07H019-048; C07D279-12; C07D277-60

NCL 530330000; 530331000; 536027230; 536028100; 540544000; 540575000; 540609000; 544059000; 544162000; 544402000
CC 23-18 (Aliphatic Compounds)
Section cross-reference(s): 1, 34
ST peptide pyruvamide prepn pharmaceutical oxidative stress
IT Heart, disease
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Ischemia
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Peptides, preparation
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 475294-13-4P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P
475293-84-6P 475293-85-7P 475293-86-8P 475293-87-9P
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P
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475294-34-9P 475294-35-0P 475294-36-1P 475294-37-2P 475294-38-3P
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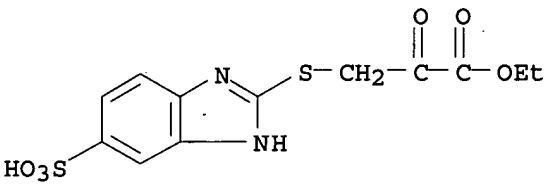
475294-71-4P 475294-72-5P 475294-73-6P 475294-74-7P 475294-75-8P
475294-76-9P 475294-77-0P 475294-78-1P 475294-81-6P 475294-82-7P
475557-24-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7, 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1, 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8, 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3, L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-

1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol
27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5,
5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0
283159-88-6 475294-53-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P
475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT **475293-84-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS
CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl ester, monosodium salt (9CI) (CA INDEX NAME)



L15 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:43014 HCAPLUS
DN 138:73002
TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress
IN Wang, Bing; Miller, Guy; Janagani, Satyanarayana
PA USA
SO U.S. Pat. Appl. Publ., 52 pp., Cont.-in-part of U. S. Provisional Ser. No. 368,456.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013657	A1	20030116	US 2002-138938	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:73002

AB Pyruvate derivs. A-X-CH2C(:NORa)CO-Z [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH2COCO2R', or CH:C(OH)CO2R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = S, SO, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di-, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; Ra = H, (un)substituted alkyl , aryl, aralkyl, or alkenyl; Z = OR or SR, where R = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl], including tautomers, stereoisomers, and mixts. of these, and their pharmaceutically-acceptable salts, were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, S-[3-ethoxy-2-(hydroxyimino)-3-oxopropyl]glutathione was prepared by alkylation of glutathione with 3-bromo-2-(hydroxyimino)propionic acid Et ester. Compds. of the invention were evaluated as agents for protection against ischemic damage.

IC ICM A61K038-08
ICS A61K038-06; A61K031-7076; A61K031-7072; A61K031-44; A61K031-401; A61K031-198

NCL 514017000; 514018000; 514019000; 514045000; 514049000; 514357000; 514408000; 514513000; 514551000; 514564000

CC 23-18 (Aliphatic Compounds)
Section cross-reference(s): 1, 34

ST peptide pyruvate oxime prepn pharmaceutical oxidative stress

IT Heart, disease
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Ischemia
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Peptides, preparation
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475294-13-4P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P
475293-84-6P 475293-85-7P 475293-86-8P 475293-87-9P
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P
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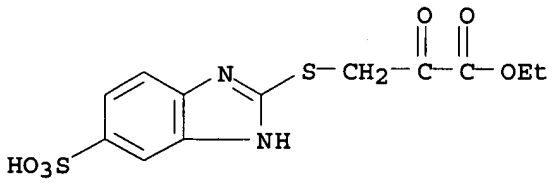
475294-76-9P 475294-77-0P 475294-78-1P 475294-81-6P 475294-82-7P
475557-24-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7, 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1, 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8, 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3, L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5, 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0 283159-88-6 475294-53-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P 475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT **475293-84-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS
CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl ester, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:43013 HCAPLUS
DN 138:73001
TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress
IN Wang, Bing; Miller, Guy; Flaim, Stephen F.; Del Balzo, Ughetta; Zhang, Wei; Janagani, Satyanarayana; Song, Jiangao
PA USA
SO U.S. Pat. Appl. Publ., 56 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013656	A1	20030116	US 2002-138726	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:73001
AB Pyruvate derivs. A-X-CH2C(:W)CO-Z and A-X-CH:C(W)CO-Z [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH2COCO2R', or CH:C(OH)CO2R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = NR', S, SO, SO2, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; W = :O, :NORa, :NNRbRc, or N(OH)Rd, where Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Rb = H, (un)substituted (cyclo)alkyl, aryl, or aralkyl; Rc = H or (un)substituted alkyl; or RbRcN = 5- to 7-membered heterocyclyl; Rd = H, acyl, or (un)substituted alkyl; Z = OR, SR, or NRbRc, where R = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, 2-amino-4-[1-(carboxymethylcarbamoyl)-2-[2-oxo-2-(pentyloxycarbonyl)ethylsulfanyl]ethyl carbamoyl]butyric acid (claimed compound) was prepared from 3-bromopyruvic acid, pentanol, and glutathione.
IC ICM A61K038-08
ICS A61K038-06; A61K031-7076; A61K031-7072; A61K031-198; A61K031-44; A61K031-40; A61K031-21
NCL 514017000; 514042000; 514045000; 514049000; 514357000; 514423000; 514513000; 514564000; 514626000
CC 23-18 (Aliphatic Compounds)
Section cross-reference(s): 1, 34
ST peptide pyruvate prepn pharmaceutical oxidative stress
IT Heart, disease
Lung, disease
(cardiopulmonary inflammatory disorder; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Movement disorders
(claudication; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Mental disorder

(cognitive, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Nervous system, disease
(degeneration; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Mental disorder
(dementia; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Cognition
(disorder, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Heart, disease
(failure; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Muscle
(fatigue; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Injury
(head; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Heart, disease
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Head, disease
Spinal cord, disease
(injury; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Nerve, disease
(peripheral neuropathy; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Ovarian cycle
(premenstrual syndrome; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Alzheimer's disease
Anti-inflammatory agents
Antiarthritics
Antiasthmatics
Antidiabetic agents
Antirheumatic agents
Asthma
Diabetes mellitus
Inflammation
Ischemia
Kidney, disease
Osteoarthritis
Parkinson's disease
Rheumatoid arthritis
Transplant and Transplantation
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Peptides, preparation
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Injury
(spinal cord; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Brain, disease
(stroke; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Surgery
(trauma; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 475294-13-4P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P
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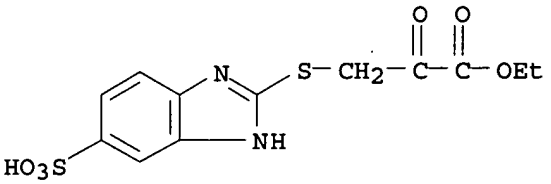
475294-76-9P 475294-77-0P 475294-78-1P 475294-81-6P 475294-82-7P
475557-24-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7, 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1, 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8, 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3, L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5, 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0 283159-88-6 475294-53-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P
475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT **475293-84-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS
CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl ester, monosodium salt (9CI) (CA INDEX NAME)



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L15 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:868895 HCAPLUS
DN 137:369738
TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress
IN Wang, Bing; Miller, Guy; Flaim, Stephen F.; Del Balzo, Ughetta; Zhang, Wei; Janagani, Satyanarayana; Song, Jingao
PA Galileo Laboratories, Inc., USA
SO PCT Int. Appl., 143 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002090314	A1	20021114	WO 2002-US14057	20020503
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
	EP 1392639	A1	20040303	EP 2002-769325	20020503
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		

US 2002-368456P P 20020323
WO 2002-US14057 W 20020503

OS MARPAT 137:369738

AB Pyruvate derivs. A-X-CH2C(:W)CO-Z and A-X-CH:C(W)CO-Z [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH2COCO2R', or CH:C(OH)CO2R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = NR', S, SO, SO2, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; W = :O, :NORa, :NNRbRc, or N(OH)Rd, where Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Rb = H, (un)substituted (cyclo)alkyl, aryl, or aralkyl; Rc = H or (un)substituted alkyl; or RbRcN = 5- to 7-membered heterocyclyl; Rd = H, acyl, or (un)substituted alkyl; Z = OR, SR, or NRbRc, where R = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, 2-amino-4-[1-(carboxymethylcarbamoyl)-2-[2-oxo-2-(pentyloxycarbonyl)ethylsulfanyl]ethyl carbamoyl]butyric acid (claimed compound) was prepared from 3-bromopyruvic acid, pentanol, and glutathione.

IC ICM C07C069-66
ICS C07C323-60; C07D295-00; A61K031-12; A61K031-16; A61K031-215; A61K031-223; A61P009-10

CC 23-18 (Aliphatic Compounds)
Section cross-reference(s): 1, 34

ST peptide pyruvate prepn pharmaceutical oxidative stress

IT Heart, disease
Lung, disease
(cardiopulmonary inflammatory disorder; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Movement disorders
(claudication; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Mental disorder
(cognitive, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Nervous system, disease
(degeneration; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Mental disorder
(dementia; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Cognition
(disorder, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Heart, disease
(failure; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Muscle
(fatigue; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Injury
(head; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Heart, disease
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Head, disease
Spinal cord, disease
(injury; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Nerve, disease
(peripheral neuropathy; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Ovarian cycle
(premenstrual syndrome; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Alzheimer's disease
Anti-inflammatory agents
Antiarthritics
Antiasthmatics
Antidiabetic agents
Antirheumatic agents
Asthma
Diabetes mellitus
Inflammation
Ischemia
Kidney, disease
Osteoarthritis
Parkinson's disease
Rheumatoid arthritis
Transplant and Transplantation
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Peptides, preparation
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Injury
(spinal cord; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Brain, disease
(stroke; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT Surgery
(trauma; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 475294-13-4P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P
475293-84-6P 475293-85-7P 475293-86-8P 475293-87-9P
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P
475293-93-7P 475293-94-8P 475293-95-9P 475293-96-0P 475293-97-1P
475293-98-2P 475293-99-3P 475294-00-9P 475294-01-0P 475294-02-1P
475294-03-2P 475294-04-3P 475294-05-4P 475294-06-5P 475294-07-6P
475294-08-7P 475294-09-8P 475294-10-1P 475294-11-2P 475294-12-3P
475294-14-5P 475294-15-6P 475294-16-7P 475294-17-8P 475294-18-9P

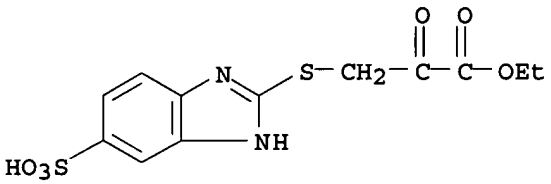
475294-19-0P 475294-20-3P 475294-21-4P 475294-22-5P 475294-23-6P
475294-24-7P 475294-25-8P 475294-26-9P 475294-27-0P 475294-28-1P
475294-29-2P 475294-30-5P 475294-31-6P 475294-32-7P 475294-33-8P
475294-34-9P 475294-35-0P 475294-36-1P 475294-37-2P 475294-38-3P
475294-39-4P 475294-40-7P 475294-41-8P 475294-42-9P 475294-43-0P
475294-44-1P 475294-45-2P 475294-46-3P 475294-47-4P 475294-48-5P
475294-49-6P 475294-60-1P 475294-63-4P 475294-64-5P 475294-65-6P
475294-66-7P 475294-67-8P 475294-68-9P 475294-69-0P 475294-70-3P
475294-71-4P 475294-72-5P 475294-73-6P 475294-74-7P 475294-75-8P
475294-76-9P 475294-77-0P 475294-78-1P 475294-79-2P 475294-80-5P
475294-81-6P 475294-82-7P 475557-24-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7, 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1, 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8, 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3, L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5, 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0 283159-88-6 475294-53-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P 475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT **475293-84-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS
CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl ester, monosodium salt (9CI) (CA INDEX NAME)



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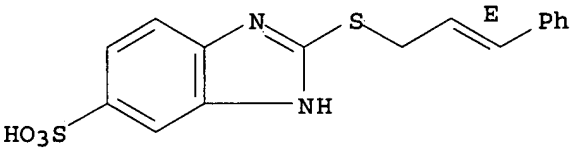
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:249217 HCAPLUS
DN 133:135264
TI Study on synthesis and their anticruzain activities of phenylallylthio-ether, sulfinyl and sulfonyl derivatives
AU Ma, Hongmei; Cheng, Maosheng; Wang, Qinghe; Wang, Qianli; Pan, Li; Shen, Jianmin
CS No.2 Lab. of Drug Synthesis, Shenyang Pharmaceutical Univ., Shenyang, 110015, Peop. Rep. China
SO Zhongguo Yaowu Huaxue Zazhi (2000), 10(1), 29-32
CODEN: ZYHZEF; ISSN: 1005-0108
PB Zhongguo Yaowu Huaxue Zazhi Bianjibu
DT Journal
LA Chinese
AB Twenty-one title compds. were prepared For example, reaction of 2-mercapto-1H-benzimidazole with trans-3-chloro-1-phenylpropene in EtOH in the presence of K2CO3 gave 53.0% 2-[trans-(1-phenylpropenyl)thio]-1H-benzimidazole. 2-[Trans-(1-phenylpropenyl)thio]-4,5-diphenyl-1H-benzimidazole showed in vitro cruzain inhibitor activity.
CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 1, 7
ST phenylallylthiobenzimidazole prepn anticruzain
IT Trypanosoma cruzi
(Chagas' disease from; synthesis and anticruzain activities of phenylallylthio ether derivs.)
IT 37353-41-6, Cysteine protease
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(inhibitors; synthesis and anticruzain activities of phenylallylthio ether derivs.)
IT 69747-26-8P 148527-96-2P 148527-98-4P 286963-32-4P 286963-34-6P 286963-36-8P 286963-40-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and anticruzain activities of phenylallylthio ether derivs.)
IT 156701-44-9P 286963-42-6P 286963-44-8P 286963-46-0P 286963-48-2P 286963-50-6P 286963-51-7P 286963-53-9P 286963-55-1P 286963-57-3P 286963-59-5P 286963-60-8P 286963-63-1P **286963-65-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(synthesis and anticruzain activities of phenylallylthio ether derivs.)

IT 583-39-1 21087-29-6 53918-03-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and anticruzain activities of phenylallylthio ether derivs.)
IT **286963-65-3P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(synthesis and anticruzain activities of phenylallylthio ether derivs.)
RN 286963-65-3 HCAPLUS
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[(2E)-3-phenyl-2-propenyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.



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L15 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:94412 HCAPLUS
DN 100:94412
TI BENZAMIN: preparation and use as stabilizers in silver halide materials of bidentate heterocyclic compounds containing an amino group
AU Pollet, Robert; Sels, Francis
CS Agfa-Gevaert Naamloze Vennootschap, Neth.
SO Research Disclosure (1983), 236, 382-3 (No. 23630)
CODEN: RSDSBB; ISSN: 0374-4353
DT Journal; Patent
LA English

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI RD 236030		19831210		
PRAI RD 1983-236030		19831210		

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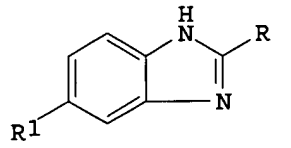
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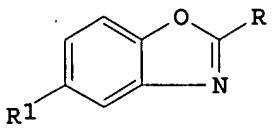
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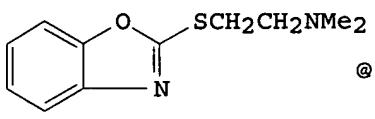

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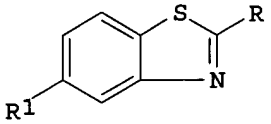
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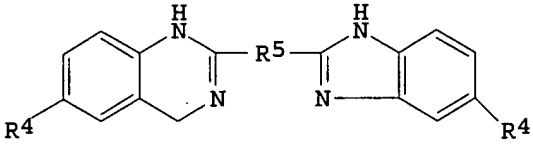
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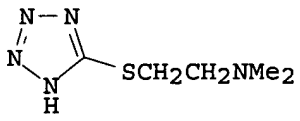


VI

AB Photog. stabilizers and fog inhibitors which also increase sensitivity of Ag halide material comprise I (R = CH2NEt2, (CH2)5NH2, SCH2CH2R2R3, CH2SCH2CH2NMe2, where R2, R3 = H, Me, Et or R2 and R3 combine to form 6-member ring containing O and N; R1 = H, SO3Na), II, III, IV, V (R4 = H, SO3H; R5 = CH2N(Me)CH2, SCH2CH2N(Me)CH2CH2S) and VI. Thus, 22 g of compound I (R = SCH2CH2NH2; R1 = H) was prepared by adding dropwise a suspension containing 2-mercaptobenzimidazole 30, chloroethylamine chlorohydrate 23.2 g, EtOH (anhydrous) 1 L to a solution of Na 9.2 g in EtOH (anhydrous) 750 mL, refluxing the obtained mixture for 10 h, filtering off the formed NaCl, and treating the filtrate with borite following by concentration by evaporation

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST stabilizer fog inhibitor photog

IT Photographic fog inhibitors
Photographic stabilizers
(bidentate heterocyclic compds. containing amino group as)

IT 5805-58-3P 7673-89-4P 17124-80-0P **88580-45-4P**
88580-46-5P 88580-47-6P 88580-48-7P 88580-49-8P
88580-50-1P 88580-51-2P
RL: **PREP (Preparation)**
(photog. stabilizer, preparation of)

IT 583-39-1
RL: USES (Uses)
(reaction with chloroethylamine chlorohydrate in presence of sodium in alc. solution, in preparation of photog. stabilizing agents)

IT 2382-96-9 58089-27-3
RL: USES (Uses)
(reaction with dimethylaminoethyl chloride chlorohydrate, in preparation of photog. stabilizer)

IT 870-24-6 4584-46-7
RL: USES (Uses)
(reaction with mercaptobenzimidazole derivs., in preparation of photog. stabilizing agents)

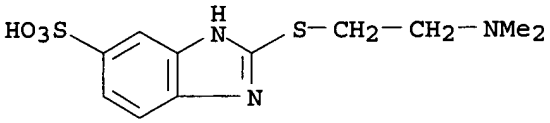
IT 3647-69-6
RL: USES (Uses)
(reaction with mercaptosulfobenzimidazole, in preparation of photog. stabilizer)

IT 4857-04-9
RL: USES (Uses)

(reaction with methylamine and dimethoxyethane, in preparation of photog. stabilizer)

IT **88580-45-4P 88580-46-5P 88580-50-1P**
RL: **PREP (Preparation)**
(photog. stabilizer, preparation of)

RN 88580-45-4 HCAPLUS
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[2-(dimethylamino)ethyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)



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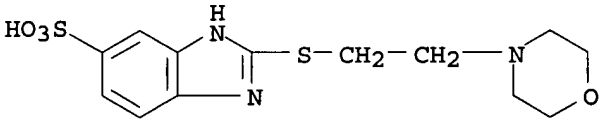
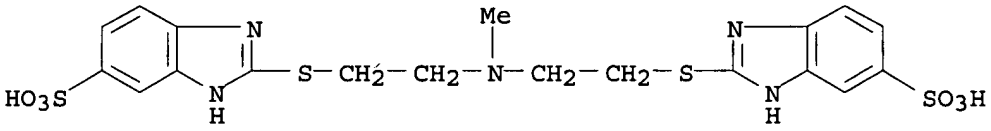
RN 88580-46-5 HCAPLUS
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[2-(4-morpholinyl)ethyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 88580-50-1 HCAPLUS
CN 1H-Benzimidazole-5-sulfonic acid, 2,2'-[(methylimino)bis(2,1-ethanediylthio)]bis- (9CI) (CA INDEX NAME)



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